

## ABSTRACT OF THE DISCLOSURE

5           An electrically actuated aircraft brake system and method which provides  
for brake wear measurement, brake running clearance adjustment, ram position-  
based control and improved construction and operation. Brake wear and  
running clearance measurement are obtained by analyzing the output of position  
sensing circuitry. The position sensing circuitry, preferably including a LVDT  
10 position sensor, is also used to determine braking load, a brake controller  
including circuitry for effecting displacement of one or more reciprocating rams  
to load a brake disk stack by a predetermined amount based on a present  
displacement value of the position signal obtained from the position sensor. The  
position sensor preferably includes a LVDT transducer connected between the  
15 reciprocating ram and a brake housing, and the motive device preferably  
includes a servo motor. Also provided is an actuator housing including a  
guideway for each ram, the guideway and ram having the same polygonal cross-  
section, whereby the ram nut is guided and restrained from rotation by the  
guideway as it is translated by a ball screw in threaded engagement with the  
20 ram nut for selective movement into and out of forceful engagement with the  
brake disk stack for applying and releasing braking force on a rotatable wheel.  
An electric motor is drivingly connected to each ball screw by a first gear integral  
with the ball screw, a second gear in mesh with the first gear, and a pinion on a  
rotating drive shaft of the electric motor.

25